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## 1.0 GENERAL

### 1.1 SUMMARY

The Office of Technology Services (OTech) provides a number of database management system (DBMS) technologies on various hardware and operating system platforms. This document describes information specific only to Oracle.

OTech offers Oracle on leased equipment within the data center. Included in this offering is installation, patching and product maintenance. OTech staff performs these tasks according to standard procedures and configurations. Customers may be provided temporary DBMS administrator privileges in a dedicated environment. This privilege may incur an additional charge and must be authorized by OTech prior to use.

OTech supports version(s) of Oracle in accordance with the OTech Software Version Support Policy. Oracle is offered on dedicated UNIX, Linux, and Microsoft Windows platforms.

OTech only provides Oracle Database administration on leased equipment within Application Hosting.

### 1.2 REFERENCES

Items referenced here are found elsewhere in this document.

|  | IDENTIFIER | DATE | TITLE  |
|--|------------|------|--|
|  | 04.13.875  | 2012 | Oracle Database Submittal  |
|  | E10594-26  |      | <a href="#">Oracle Database Licensing Information</a>            |
|  | 3132       | 2010 | <a href="#">OTech Standard 3132 – Midrange Database Security</a> |
|  | Website    | NA   | <a href="#">OTech Service Request Process</a>                    |
|  | 4000       | 2011 | <a href="#">OTech Software Version Support Policy</a>            |
|  | 4000       | 2011 | <a href="#">OTech Procedure 4000 – Software Version Support</a>  |
|  | Web Site   | NA   | <a href="#">OTech Contact Information</a>                        |
|  | 3138       | 2010 | <a href="#">OTech System Administrator Standard, 3138</a>        |
|  | 3502       | 2010 | <a href="#">3502 – Information Security Exception Request</a>    |

### 1.3 SUBMITTALS

#### 1.3.1 General

OTech is available to advise and assist customers in formulating IT designs that will leverage available service offerings. Contact your Account Manager to engage

architectural/engineering and design consulting services. Additional charges may be incurred.

Include the Customer's name, contact information and associated project name on forms, documents, and requests submitted to OTech.

Use the following method for work requests:

| Item   | Request Method  |
|--|---|
| Quotes & Billable Service                      | OTech Customer Service System (CSS) Request   |
| Modifications to Existing Systems              | OTech Service Desk, CSS or Remedy Service Request   |
| Technical Problems                             | OTech Service Desk or Remedy Incident   |
| Security Related Issues/Incidents              | OTech Service Desk  |
| Temporary DBMS Administrator Privilege Request | Information Security Exception Request. Follow procedure outlined in <a href="#">OTech Standard 3132 - Midrange Database Security</a> and <a href="#">Procedure 3502 – Information Security Request</a> |

### 1.3.2 Service Request

A completed Oracle Database Submittal is required prior to the start of work. To aid in the preparation of providing this technology, all information must be included in the OTech Service Request. Logical and physical database design diagram(s) must be submitted with this form. Customer should update the logical and physical database design diagram(s) as the database environment(s) are completed and accepted by the Customer.

This Submittal is to be revised at appropriate intervals providing for expeditious and practicable execution of the Work. Revised submittal(s) must indicate changes, if any.

## 1.4 EXPECTATIONS

### 1.4.1 OTech

OTech manages contract and licensing for DBMS software and serves as liaison between the customer and technology vendor for technical system level DBMS issues.

Technology products must be within vendor supported versions to sustain availability and integrity. The OTech documents end-of-support and will inform Customers of the upgrade plan through OTech Account Managers and E-News notifications.

The OTech follows change management practices. Change requests are recorded in the OTech Remedy system, as a Change Request (CRQ). OTech account managers can provide current change procedures.

### 1.4.2 Customer

Customers are expected to maintain logical and physical database design diagram(s) and provide them to OTech upon request. Customers should update the logical and physical database design diagram(s) as the database environment(s) are completed and accepted by the Customer.

Customers are expected to understand product lifecycles and collaborate with OTech on upgrades, testing, and verification of their database technology before the end-of-support date. Failure to migrate off of unsupported versions may incur additional charges. Refer to the [OTech Procedure 4000 – Software Version Support](#) for details.

Customers are expected to determine and submit details on hardware capacity needs (e.g., RAM, storage space) and software (e.g., version and edition of MS SQL Server).

Customers are expected to identify and lead the resolution of database application related problems. Customers may identify and report system level database problems to OTech.

## 1.5 SCHEDULING

OTech's goal is to provide comprehensive and cost-effective technology service in a timely manner. Customers promote this goal by promptly providing information requested, and by keeping the OTech project manager / account manager informed of technology project status.

### 1.5.1 Backup

The OTech performs database backups on the following schedule:

| WHAT                   | WHEN                 |
|------------------------|----------------------|
| Full Backup            | Weekly               |
| Transaction Log Backup | Daily except Mondays |
| Backup Retention       | 28 days              |

### 1.5.2 Change Management Schedule

Oracle change proposal / requests follow the established OTech Change Management process. Oracle maintenance activities utilize the platform maintenance schedules; however, changes may be scheduled. Changes require 2-week prior notification. Shorter periods may not always be accommodated. Security related changes adhere to the OTech Security Patching and Monitoring Standard.

Additional charges may be incurred for expedited change requests.

## 1.6 **DEFINITIONS**

| Term, phrase, abbreviation | Definition                 |
|----------------------------|----------------------------|
| DBMS                       | Database Management System |
| SA                         | System Administrator       |
|                            |                            |

## 2.0 PRODUCTS

Oracle Database Options vary version to version. Refer to the manufacturer documentation when selecting needed product options.

### 2.1 **ORACLE DATABASE ENTERPRISE EDITION (64BIT)**

1. [11g Release 2](#) (11.2)

#### 2.1.1 **Oracle Database Options, Include but are not limited to:**

1. Active Data Guard
2. Advanced Analytics
3. Advanced Compression
4. Advanced Security
5. Communications Data Model
6. Database Vault
7. In-Memory Database Cache
8. Label Security
9. Manageability Packs (ie: Tuning Pack, Diagnostic Pack)
10. On-Line Analytical Processing (OLAP)
11. Partitioning
12. Real Application Clusters (Oracle RAC)
13. Real Application Clusters One-Node
14. Real Application Testing
15. Spatial
16. Total Recall

### 2.2 **PLATFORM**

1. Sun/Oracle Solaris (UNIX)
2. IBM AIX (UNIX)
3. Linux
4. Microsoft Windows

## 3.0 EXECUTION

### 3.1 SECURITY

Oracle DBMS administration authority is restricted to OTech designated personnel.

Occasions arise when, during construction, customers may be granted temporary DBMS administration rights to their leased installations of Oracle database. This access is limited to a maximum of four (4) calendar weeks from the time access is provided and will be revoked thereafter. If a customer requires temporary DBMS administration rights, the customer must complete an Information Security Exception Request and adhere to [OTech Standard 3132 - Midrange Database Security](#)

Follow the procedure outlined in [Procedure 3502 – Information Security Request](#)

Configuration changes made outside the scope delineated above and needing intervention, correction, or troubleshooting by OTech Staff may incur additional charges.

### 3.2 SUPPORT AVAILABILITY

The core business hours for Oracle technical support are Monday through Friday 0800 – 1700. State holidays and mandated schedule alterations are observed and may impact staff availability.

### 3.3 QUALITY CONTROL

Oracle database installation requests must be reviewed and approved by OTech. Oracle installations are provided by OTech in accordance with the manufacturer installation procedures and Oracle Database Submittal.

#### 3.3.1 OTech Responsibilities

1. Review and approval of submitted information prior to beginning work.
2. Notify Customer of submittal flaws, if any.
3. Oracle installation, upgrades, patching, and standard configuration.
4. Assist customer in specifying design in accordance with information provided in 1.3 - Submittals.
5. Assist customer with DBMS incident resolution subsequent to application configuration changes.

#### 3.3.2 Customer Responsibilities

1. Design, develop, deploy, test the database and maintain its interaction with application(s).
2. Submit complete 1.3 - Submittals information.

## **3.4 INSTALLATION**

OTech configurations include:

1. Base Oracle binary installation
2. Required Oracle patch installation
3. Database Owner access privileges
4. Tablespace layout and sizing

### **3.4.1 OTech Responsibilities**

1. System-level administration
2. Assist customers by restoring a database in accordance with Oracle Database Submittal
3. Monitor table space usage and request to add space when needed
4. Maintain data and log file physical backups
5. Assist in resolution of database system problems
6. Create database DBA account(s) within Oracle and assign permissions in accordance with Oracle Database Submittal
7. Monitor and fine tune DBMS software
8. Review and recommend optional configurations that may better meet capacity and performance requirements in accordance with Database Oracle Submittal
9. Perform DBMS version migrations, upgrades, patches
10. Maintain non-client based database administration tools
11. Maintain DBMS software/configurations
12. Resolve database system problems or seek vendor support for DMBS issues through authorized escalation processes

### **3.4.2 Customer Responsibilities**

1. Define database availability requirements
2. Indicate database DBA accounts in the Oracle Database Submittal; then create and maintain database users
3. Document database design and application architecture
4. Maintain database dictionaries
5. Respond to threshold limit notifications provided by OTech staff with mitigating action
6. Test new maintenance and software releases at user and application levels for compatibility and functionality to database
7. Submit service request(s) to purchase Oracle Database licenses or renew maintenance
8. Additional charges for OTech intervention, troubleshooting and correction of unauthorized changes. This may include a pass-thru charge of licensed auditing software used to repair unauthorized changes
9. Create and maintain schema objects
10. Load database data via access provided through Oracle Management Studio
11. Adhering to OTech Software Version Support standard for application design,



- development, testing, migration, and maintenance activities
12. Notify OTech Customer Account Manager/Representative of requests to receive notifications via Simple Mail Transport Protocol (SMTP)
  13. Application design and maintenance adhering to supported software versions
  14. Maintain current application and database statistics by running utilities
  15. Maintain application development tools running on attached client(s)
  16. Ongoing monitoring of database growth in relation to disk space
  17. Monitor database use and promptly respond when action is needed
  18. Assist in resolution of database system problems
  19. Identity database application related problems or database system problems and report them in accordance with the Oracle Database Submittal
  20. Data cleansing